

THE ANALYSIS OF SOCIAL INSURANCE BENEFITS PROVIDED FOR  
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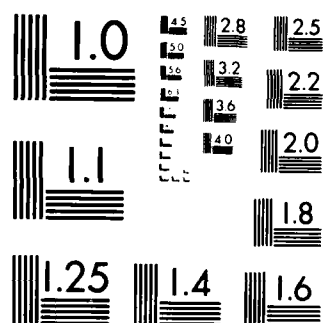
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## THESIS

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THE ANALYSIS OF SOCIAL INSURANCE BENEFITS  
PROVIDED FOR  
THE INDONESIAN MILITARY PERSONNEL

by

Eddy Noegroho

June 1984

Thesis Advisor:

Shu Liao

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The Analysis of Social Insurance Benefits  
Provided for the Indonesian Military Personnel.

by

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Commander, Indonesian Navy  
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Submitted in partial fulfillment of the  
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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## ABSTRACT

Social insurance is a compulsory insurance program, which is now commonly applied throughout the world. Indonesia has also adopted social insurance programs, which for the military personnel is managed by a government insurance company called PERUM ASABRI. This thesis analyzes the social insurance benefits provided for the Indonesian military personnel, particularly the benefits from the savings aspect of the insurance program. The present value method is applied to calculate the contributions made by a hypothetical military officer and the benefits he would be entitled. Based on this analysis, recommendations are suggested for a better and fairer benefit scheme, while not threatening the continuity of the company's operation.

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## I. INTRODUCTION

### A. SOCIAL INSURANCE

Insurance in modern society is an important economic tool which has the following multiple uses: [Ref. 1]

1. introducing security into personal and business situations,
2. providing a desirable means of saving and a means of capitalizing earning power,
3. safeguarding beneficiaries from bankruptcy or poverty, while serving to eliminate their dependency on others as a result of such situations, and
4. promoting economic development.

Insurance institutions have taken two basic forms of ownership: private and public. Private insurance consists of all types of coverage written by privately organized groups, while public or social insurance includes all types of coverage written by governmental bodies. Theoretically, social insurance is unlikely to exist without the support of the government, since no private insurers would have the capability of managing and financing the large populations covered by such insurance.

The main text of this thesis will include both a discussion and comparison of social insurance as it was conceived and as it now exists in the United States, and the social insurance system which is presently being implemented in Indonesia. The purpose for analyzing social insurance is to determine whether or not the social insurance system which presently exists in Indonesia as it relates to military personnel is fair to both the company and its members. Specifically I plan to analyze the benefits provided by

PERUM ASABRI using the present value method to determine its fairness.

The Social Security Act, one example of the implementation of a social insurance plan, was launched in 1935 by the United States Government. The Act was put into effect at a time when public expenditures to counter want and dependency were heavily weighted by the demands resulting from long continued mass unemployment and exhaustion of personal and community resources. This time, of course, was during the early years of the great depression. Since that time practically every American has become either a beneficiary, a contributor, or a dependent of a contributor. [Ref. 2]

#### B. SOCIAL INSURANCE IN INDONESIA

Indonesia, one of the young developing countries with its own particular social and economic problems, has adopted compulsory social insurance plans. The plans are managed by three government owned<sup>1</sup> companies, i.e. :

1. PERUM TASPEN (Perusahaan Umum Tabungan dan Asuransi Sosial Pegawai Negeri or the Public Company of Saving and Social Insurance for Government Servants) was established in 1963 with the issuance of Government Regulation No 10. This

-----  
<sup>1</sup>An Indonesian Government Owned Company, called PERUSAHAAN NEGARA, is a corporation in any form whose entire capital is owned by the government. The specification of PERUSAHAAN NEGARA can be in the form of:

a. PERUSAHAAN JAWATAN or PERJAN, a government owned company under the ordinance of "Indoneische Bedryvenwet", 1927. Exp. PERUSAHAAN JAWATAN KERETA API (The Railroad Company).

b. PERUSAHAAN UMUM or PERUM, a government owned company under the ordinance of The Government Regulation as Substitute Law No. 19, 1960. Exp. PERUM ASABRI (The Public Company of Saving and Social Insurance for the Indonesian Armed Forces).

c. PERUSAHAAN PERSEROAN or PERSERO, a corporation in which the government possesses certain shares, while its legal entity is under the ordinance of the Business lawbook, 1847. Exp. PT. SEMEN GRESIK (PERSERO) (The Government Corporation of Cement Gresik). [Ref. 3]

regulation requires that all persons on government payroll automatically become members of the program. [Ref. 4] Its coverage includes:

- a. a saving insurance program,
- b. a life insurance program.

2. PERUM ASTEK (Perusahaan Umum Asuransi Sosial Tenaga Kerja or the Public Company of Social Insurance for Manpower) was established in 1977 with the issuance of Government Regulation No 33. This is a social insurance plan for private workers (those who do not work for the government and are not likely to become members of two above mentioned social insurance companies). PERUM ASTEK is managed under the supervision of the Department of Manpower and Transmigration, and has benefit schemes covering:

- a. a labor accident risk insurance program,
- b. mutual saving and life insurance programs.

3. PERUM ASABRI (Perusahaan Umum Asuransi Sosial Angkatan Bersenjata Republik Indonesia or the Public Company of Saving and Social Insurance for the Indonesian Armed Forces) was enacted in 1971. Separated from PERUM TASPEN, it was established with the issuance of Government Regulation No 44. Its intent is to operate a social insurance plan for military personnel and civilians serving in the Department of Defense. [Ref. 5] Its coverage is the same as PERUM TASPEN:

- a. a saving insurance program,
- b. a life insurance program.

PERUM ASABRI is managed under the supervision of the Department of Defense, having the characteristics of providing death insurance benefits, besides the general characteristics of a saving program. Its limited members and the contribution being received by the company is a part of the interesting management features.

### 3. Membership

A person builds protection under the OASDHI program through working in employment covered under various Social Security related legislation. Coverage is, in general, compulsory. Contributions on wage and salary workers' earnings up to a statutory maximum each year are withheld and matched by employers. Self-employed persons pay contributions on their annual earnings up to the same maximum as employees, but at a higher rate. Contributions of workers with more than one employer are withheld and matched up to the annual maximum by each employer. Self-employment earnings of wage and salary workers are taxable only up to the amount by which their wages are less than the annual maximum taxable amount. Premiums are paid on a voluntary basis for certain portions of the Medicare program. All contributions and premiums are credited to the various trust funds that are the sources of payments for:

- a. Monthly benefits when the worker retires, dies, or becomes disabled
- b. Service benefits when eligible aged and disabled individuals incur hospital or medical expenses
- c. Vocational rehabilitation services when disability benefits are being received
- d. Administrative expenses for each program.

No funds are disbursed for any other purpose.

A number is issued to a person by the Social Security Administration to keep a record of earnings and of the benefits based on these earnings. Taxable wages and self-employment income are reported by employers and self-employed individuals and credited to the worker's record under his social security number. [Ref. 12]

Longer-range provisions of the Act were designed to provide insurance benefits for employees in commerce and industry that would furnish a basic income in old-age retirement and during limited periods of involuntary unemployment. Workers were to pay a small percentage of their earnings up to a specified ceiling into a trust fund, and their employers were to contribute an equal amount.

After the passage of the Social Security Act, the predominant emphasis, until recently, has been on income maintenance rather than poverty elimination. More attention has been paid to raising benefits at the upper income levels than to making sure that the minimum benefits are indeed adequate to provide a standard of living above the poverty line.

## 2. The OASDHI Program

The Old-Age, Survivors, Disability, and Health Insurance (OASDHI) program provides monthly benefits to retired and disabled workers and their spouses and children and to survivors of insured workers. It also provides Health Insurance benefits for persons aged 65 and over, and starting July 1973, for the disabled under age 65. Old-age retirement benefits were provided by the original Social Security Act of 1935, benefits for spouses and children and survivors by the 1939 amendments, benefits for the disabled by the 1956 amendments, and benefits for the spouses and children of disabled workers by the 1958 amendments. The 1965 amendments initiated the Health Insurance program, generally known as Medicare. [Ref. 12]



The Social Security Act covers a number of programs which have the basic objectives of keeping individuals and families from becoming destitute due to loss of earnings, protecting older persons against the expenses of illnesses that could otherwise exhaust their savings, keeping families together, and giving children the opportunity to grow up in health and security. These programs are: [Ref. 11]

- a. Retirement insurance
- b. Survivors insurance
- c. Disability insurance
- d. Hospital and medical insurance for the aged
- e. Unemployment insurance
- f. Public assistance and welfare services:
  - 1) Old age assistance
  - 2) Aid to the blind
  - 3) Aid to needy families with children
  - 4) Aid to the permanently and totally disabled
  - 5) Medical assistance
  - 6) Material and child-health services
  - 7) Services for crippled children
  - 8) Child welfare services.

Though the Social Security Act is a Federal law, the Federal Government operates only the first four of the above programs. The other programs are operated by the States with Federal cooperation.

Through the federal-state partnership implemented by federal grants-in-aid, assistance became available in February, 1936 under the federal-state program for needy persons in three groups of the population that in good times as well as bad, have little or no capacity to earn their own living - the aged, the blind, and children deprived of parental support or care through the death, absence from the home, or physical or mental incapacity of a parent.

Because the benefits and contribution rates may be made non contractual and flexible, and because the government has the taxing power, some risks which are non insurable by sound private insurance standards are insurable under social insurance programs. For example, Old-Age, Survivors, and Disability Insurance, as it presently exists, could not be underwritten by a private insurer, as there are too many unpredictable variables in the program.

Another case in point is unemployment insurance, which is not underwritten by private commercial insurers because they consider the chance of loss to be unpredictable and the exposure units to be interdependent. However, some employers have developed self-insured unemployment "insurance" plans.

#### D. SOCIAL SECURITY IN THE UNITED STATES

##### 1. The Social Security Act 1935

The Social Security Act was passed by Congress and became law on August 14, 1935. It was launched during the great depression and was conceived then as a kind of social insurance. Although never intended to be subject to the strict actuarial standards used by private insurance programs - in which accumulated premiums are invested, individually accounted for, and contractually related on the basis of equity earned to the benefits later payable - the original old age and survivors social security plan, nevertheless, was seen as a modified form of that concept. [Ref. 10] In general, social security has two major objectives whose relative importance has changed from time to time. First is the elimination of poverty through provision of some minimum income. Second is assurance of the maintenance of some specified fraction of previous incomes in the event there should be an interruption or loss of earning power.

1. Participation is compulsory for all eligible persons. Otherwise some individuals would elect to be covered and the policy objective of a floor of protection for all members of a defined group would be thwarted.

2. The benefits are prescribed by law. There are no contracts, and it is possible (but highly improbable) that the government will rescind the benefits in the future. Periodic changes in the benefit structure are very likely through changes in the law.

3. The system redistributes income in addition to providing protection through a pooling arrangement. The lower income groups, the insureds with many dependents, and the participants who were elderly when the system was inaugurated receive more benefits for their contributions than most other participants. If this were not true, it would be impossible to achieve the public policy objective of a floor of protection for all participants, since some insureds would be unable to afford adequate protection. The benefits are not equitable in the private insurance sense, but they are not meant to be. Other standards of performance have been deemed more important.

The contribution rates are scheduled, but the government may and has revised the schedule periodically. Consequently, bankruptcy is impossible as long as the government has an effective taxing power, although it is conceivable that the taxes may become unbearable. An individual's contribution may vary yearly even though the tax rate remains fixed, for the base (annual income) upon which the tax is levied may fluctuate from year to year. The fluctuations may have little or no effect on the benefits.

4. The government system is a monopolistic system. However, public pressure forces a continual reassessment of benefits and contribution rates.

compulsion, to give organization, or to supply other ingredients in a successful insurance formula. Social insurance has a basic purpose of providing a certain degree of economic security to members of a society against risks which are beyond the control of either the individual or a group of private individuals organized for mutual protection by a private insurance company. Neither private agencies nor the individual were able completely to meet successfully the various problems leading to old-age dependency, ill health, or unemployment. In an industrialized economy, these problems are essentially beyond the power of any individual to solve. It is no longer accepted reasoning, for example, that an individual is solely to blame for his unemployment and should bear the entire cost himself. It is also recognized that it may be beyond the power of the individual to provide completely for his own old age because of the nature of the economy in which he earns his living.

Social insurance has the further purpose of helping to stabilize the economy in various ways and to maintain a full employment level. Unemployment insurance benefits, for example, have a recognized stabilizing effect in periods of recession. If an employee without savings loses his job, he does not have to go on relief roles immediately, but perhaps may only find it necessary to reduce his standard of living temporarily until a new job is found. If a community's main source of employment is cut off, the blow to business activity is thus softened, although a new source of employment must be found to replace that which was lost. Hence, social insurance will include all insurance arrangements in which the government acts as the insurer, subsidizes the operation, or requires the insureds to purchase protection.

Social insurance differs from the most common forms of private insurance in four important respects: [Ref. 9]

The purpose of social insurance is then to prevent economic insecurity by pooling the contributions paid by covered earners and their employers to provide protection against the loss of earned income for a portion of the insureds.

The social insurance plans tend to be introduced whenever a social problem exists which requires governmental action for solution and where insurance methods are deemed most appropriate as a solution.

A social problem is a condition or set of circumstances that society, as a whole, finds repugnant or otherwise undesirable, and for which the solutions are generally beyond the control of the individual. Examples are the problems of crime, poverty, unemployment, mental disease, ill health, dependency of children or aged persons, economic privation of a certain class such as agricultural workers, drug addicts, industrial accident victims, and divorcees and their families. Insurance is not an appropriate method of solution for many of these problems since the peril is not accidental, fortuitous, or predictable. In other instances insurance is perhaps feasible, but due to the catastrophic nature of the event (as in unemployment), private insurers cannot undertake the underwriting task because of lack of financial capacity. This means that if the insurance method is to be used as a solution for certain problems, governmental agencies must either administer or finance the insurance plan.

The justification for social insurance, then, lies in the fact that some insurance tasks either cannot or are not accomplished by private insurers without assistance from the government. These tasks concern social problems which are deemed too important to ignore. [Ref. 8]

The economic problems involved in social insurance are such that governmental action is necessary to solve legal difficulties, to supplement financing, to introduce

TABLE I  
Division of the Insurance Business

Private Insurance

<u>Fire</u>	<u>Casualty</u>
Fire	Accident and sickness
Extended coverages	Automobile insurance
Business interruption	Workmen's compensation
Related lines, such as sprinkler leakage, water damage, etc	Liability coverages
	Burglary, robbery, and theft
	Glass
	Power plant
	Credit
<u>Marine</u>	<u>Suretyship</u>
Ocean Marine:	Fidelity
Cargo	Surety
Hull	Forgery
Freight	
Liability	
Inland Marine:	<u>Life</u>
Transportation	Life
Instrumentalities of transportation	Annuities
Property floaters	Accident and sickness
Bailee coverages	

Social Insurance

<u>Federal Government</u>	<u>State Government</u>
Old age, survivors, and disability insurance program	Workmen's compensation
	Unemployment
Miscellaneous programs, such as war damage insurance, etc	Accident & sickness program
	Miscellaneous programs

## B. PRIVATE INSURANCE

The classification of insurance into private and social insurances, can also be distinguished through its coverages (Table I) The private insurance coverages are generally divided into three major types :

1. Fire and marine
2. Casualty and surety
3. Life

Private insurance plans generally possess the following characteristics: [Ref. 9]

1. The protection is voluntary, insureds must be sold on the need for protection. As a result, some persons buy either no protection or inadequate protection, and they retain their freedom of economic choice.

2. The insurance contract is a legal instrument which cannot be changed and which can be enforced in the courts.

3. The cost of each individual's protection is determined on an actuarial basis. His benefit amounts and his loss and expense producing potentialities are considered in determining the price, for the price of the protection should equal the expected cost.

4. The protection is provided by many insurers of various types who compete with one another for insureds. Competition forces the insurers to reassess their contracts and prices periodically.

## C. THE SOCIAL INSURANCE

The Committee on Social Insurance Terminology offers the following definition of social insurance:

A device for pooling of risks by their transfer to an organization, usually governmental, that is required by law to provide pecuniary or service benefits to or on behalf of covered persons upon the occurrence of certain predesignated losses. [Ref. 8]

enough to contemplate various types of social insurance. The definition also refers to insurance as an economic institution, while its legal status is not important, since it can be a chartered insurance company, a private corporation, a group of associated individuals cooperating in an insurance venture informally, or a governmental agency. It also refers to "accidental losses", because losses which are certain to occur are not insurable.

An insurable risk should possess the following characteristics :

1. The number of insureds should be large and should be independently exposed to the potential loss, otherwise the risk is not reduced sufficiently to permit safe operation.

2. The losses covered should be definite in time and place to facilitate loss adjustments.

3. The chance of loss should be measurable, otherwise the cost of the program is indefinite.

4. The loss should be accidental from the viewpoint of the insured. It is unwise to insure against losses which the insured can bring about or against losses which are bound to happen. Death, for example, is bound to happen, but the date of death is uncertain. [Ref. 8]

Insurance is often referred to as an intangible since the policy holder receives in essence a piece of paper rather than a physical product. Because of the fact that the benefits of insurance often lie in the future, people tend to put off taking out the necessary insurance in favor of purchasing articles which can be enjoyed immediately. For this reason, insurance companies have generally found it necessary to employ agents to sell their products to the public. The purpose of the agent is to explain policies to the public and attempt to convince potential clients that they will benefit from the purchase of insurance.



benefits of pecuniary value upon another party, herein called the insured or beneficiary, dependent upon the happening of fortuitous event in which the insured or beneficiary has, or is expected to have at the time of this happening of such event. A fortuitous event is any occurrence or failure to occur which is, or is assumed by the parties to be, to a substantial extent beyond the control of either party. [Ref. 1]

From a social standpoint, insurance may be observed as a method of combining a large enough group of units to make the loss predictable. This method enables the individual to obtain insurance at a reasonable rate and thus to protect himself against the possibility of disastrous losses.

From the standpoint of an accountant, insurance may be defined as a method of substituting a small certain loss for a large uncertain loss. The individual suffers a monetary loss by paying a small premium which he otherwise would not have to pay. In return, however, protection against the possibility of a large loss will be obtained. The loss, of course, may or may not occur.

Greene offered a definition of insurance, which covered two major contexts :

1. as a legal contract, and
2. as a social or economic institution designed to perform certain functions, as follows:

Insurance is an economic institution that reduces risk by combining under one management a group of objects so situated that the aggregate accidental losses to which the group is subject become predictable within narrow limits. It is usually effected by, and can be said to include certain legal contracts under which the insurer for consideration, promises to reimburse the insured or render services in case of certain described accidental losses suffered during the term of the agreement. [Ref. 8]

This definition stresses how the main economic function performed by insurance, namely, risk reduction is accomplished. The word "usually" is to imply that not all insurance is effected by means of a legal contract. This is broad

## II. INSURANCE: PRIVATE INSURANCE AND SOCIAL INSURANCE

### A. INSURANCE AND ITS DEFINITION

One of the greatest problems that people face in life is the danger of loss or injury. It manifests itself in various forms such as disease, disability, death, unemployment, fire, natural disaster, political chaos, war and all the rest of an endless list. The danger comes to life uncertainly so that everybody bears a certain risk, thus creating a feeling of insecurity. People have steadily sought ways and means of avoiding the threat of unexpected injury to themselves or others which results from the existence of these many risks. Insurance is the most universal and probably the soundest scheme for avoiding or transferring risk that has as yet been devised. [Ref. 7] The major value of insurance is that it enables policy holders to eliminate constant worry about the loss of their possessions or their health. To most people, uncertainty and insecurity are a type of mental pain. Peace of mind may therefore be considered an intangible benefit provided by insurance.

Insurance may be defined in many ways depending upon the standpoint from which it is viewed. [Ref. 1] From the legal standpoint, insurance is a contract whereby the insurance company agrees to make payments to a party, should the event insured against in the contract occur. Thus insurance may be looked upon as a series of contracts whereby the insurance company agrees to indemnify the insured against certain losses.

The New York Insurance Law defines insurance as follows:

The term insurance contract shall be deemed to include any agreement or other transaction whereby one party, herein called the insurer, is obligated to confer

the insurance company using the present value method. The result of the comparison is not the absolute fairness measurement, since PERUM ASABRI also bears other obligations which should be taken into consideration.

The methodology used in my thesis is by:

a. Acquiring pertinent information on some of the company's major problems through personal interviews with some company officials.

b. Using the benefit schemes provided by the company in their publication titled : Petunjuk untuk Mendapatkan Santunan ASABRI. [Ref. 6]

c. Hypothecizing and documenting what a career officer would contribute to and gain from being a member of the insurance program using the present value method discussed in section C of Chapter IV.

Chapter II discusses the nature of insurance, particularly the social insurance and its practice, which, in the United States, is known as social security.

Chapter III discusses the nature of the social insurance system for military personnel in Indonesia.

Chapter IV shows the structure of the present value model, along with some assumptions and simplification it assumes.

Chapter V will apply the present value model to the current ASABRI benefits scheme to evaluate its fairness.

### C. THE ISSUES

Realizing the fact that PERUM ASABRI is still very young, and the benefit scales have been reassessed many times to meet the "fairness" of the compensation, frequent questions asked by members are: What is the criteria of fairness that is used to calculate the benefit amount? Is the company's ability to pay the benefits the single consideration in determining benefit amounts? Members argue that money today is worth more than it will be tomorrow, especially because of the high inflation and interest rates. They always think in terms of saving their money rather than contributing it to a social insurance program. No one will argue against the mandate of the social insurance program, since the contribution they made in the form of salary deduction is considered reasonable. What is at issue is the question of fairness of the benefits amount in comparison with the compulsory contributions made.

Another question being raised is whether PERUM ASABRI will ever go bankrupt or find itself in a deficit situation due to the shrinkage of funds. Such a situation has befallen the social security program in the United States. If this problem exists, then a careful actuarial calculation with a sufficient safe cushion should be made in setting up the formula to calculate the necessary benefit amount.

### D. THE METHODOLOGY

One method in measuring the fairness of a savings insurance program is by comparing the present value of both the contribution being paid every month, with the benefit amount that would be received by the beneficiary later on. This comparison should reflect a measure of fairness. The purpose of this thesis is to analyze the fairness of the benefit provided by PERUM ASABRI to both the beneficiary and

#### 4. Trust Funds

Funds not withdrawn for current cash or service benefits, the financial interchange, and administrative expenses are invested in interest-bearing Federal securities, as required by law; the interest earned is also deposited in the trust funds.

There are four separate accounts in the United States Treasury, in which the equivalent of taxes received are deposited under the Federal Insurance Contributions Act, the Self-Employment Contribution Act, and contributions under section 218 of the Social Security Act dealing with coverage of State and local government employees. In addition, any sums received under the financial interchange with the railroad retirement account; voluntary hospital and medical insurance premiums and transfers of Federal general revenues are also deposited in these accounts. These four accounts are:

a. Old-age and survivors insurance (OASI).- The trust fund used for paying monthly cash benefits to retired-worker (old-age) beneficiaries and their dependents and to survivors of insured workers.

b. Disability insurance (DI).- The trust fund used for paying monthly cash benefits to disabled-worker beneficiaries and their dependents and for providing rehabilitation services to the disabled.

c. Hospital Insurance (HI).- The trust fund used for paying part of the costs of inpatient hospital services and related posthospital care for aged and disabled individuals who meet the eligibility requirements.

d. Supplementary medical insurance (SMI).- The trust fund used for paying part of the costs of physicians' services, outpatient hospital services, and other related medical and health services for voluntarily insured aged and disabled individuals. [Ref. 13]

## 5. Cash Benefits

Monthly cash benefits under OASDHI are paid as a matter of earned right to workers who gain insured status and to eligible dependents and survivors of such workers. Fully insured status qualifies a worker and his family for almost all benefit types on the basis of his social security earnings credits. A worker who dies without being fully insured may be currently insured, and his children and their widowed mother would thus qualify for benefits. "Insured in event of disability" status is required to qualify for a disabled-worker benefit or to establish a period of disability. A lump-sum payment is also payable on the death of a fully or currently insured worker. Certain persons aged 72 and over who do not meet the insured-status requirements can qualify for small fixed-rate benefits under special transitional provisions.

Cash benefits are financed through contributions from wages and salaries and self-employment income (except for transfer of Federal general revenues to finance military and other gratuitous wage credits and 'special' benefits). The cash benefit program is administered by the Federal Government; there is no participation by private insurance companies or private pension plans. [Ref. 12]

This chapter was intended to serve as a point of comment information about social insurance as it exists in the United States. The next chapter will concern itself with the direction that social insurance has taken in Indonesia with emphasis on social insurance for the military personnel.

### III. SOCIAL INSURANCE SYSTEM FOR THE MILITARY PERSONNEL IN INDONESIA

#### A. SOCIAL INSURANCE IN INDONESIA

In a developing country such as Indonesia, the role of compulsory insurance i.e. social insurance, as an economic institution is very important both for individuals as well as for the whole community as an entity. First, it will provide protection for the individuals, such as in old-age pension, health, sickness, death and labor accident insurance, which will give a feeling of security and welfare for the employees or workers as well as their dependents, a condition basically needed to increase personal productivity. Second, it will support and enhance the national development program, since the contribution gathered from the members as premium by the insurance company is a form of compulsory saving from the society, creating a potential domestic capital formation for the whole economic system.

Realizing the fact that people are not insurance minded and aware enough of the benefits, while they have to be protected, the Government of Indonesia designed a compulsory social insurance for the purpose of the continuation of the program, for each group of people in the society: the civilian servants, the military personnel, and those who don't work for the government.

In comparison with the social security program in the United States which covers various other kinds of benefit categories such as, the social insurance, public assistance, and welfare programs, the social insurance program in Indonesia today covers only the first category just mentioned.

## B. SOCIAL INSURANCE FOR THE MILITARY PERSONNEL IN INDONESIA

### 1. Considerations and Missions

Some of the important consideration in establishing PERUM ASABRI separate from PERUM TASPEN are as follows:

a. The system will guarantee better management and control (military way) so that they could provide better benefits and faster service to the beneficiaries, since most of the key positions could be assumed by ex-military personnel, who undoubtedly still possess their own interest, furthermore, the company's policy could still be controlled by the Department of Defense. This is an important feature in accordance with the policy of giving better soldier welfare and maintaining high morale.

b. The system will provide a prospective opportunity for the retired military personnel who would like to take the job in this company with all its side activities.

The main missions of PERUM ASABRI are:

a. to pay all the benefits claim to the members or the survivors as soon the benefit is claimed as possible.

b. to prepare and assess an actuarial calculation to determine the feasible amount of benefits according to its current financial ability.

c. to manage the contribution funds being collected from members in such a way as to providing ever-increasing amounts of benefits possible.

### 2. The Actuarial Calculation

The actuarial calculation for a social insurance program can be determined using two different approaches, namely:

a. The prospective approach which, based on the existing fund, determines the kinds and amount of the



benefits which will be given to the beneficiaries in the future.

k. The retrospective approach, which is to determine in advance the kinds and amount of the benefits to be given in the future, from which a calculation is derived to find the necessary amount of fund that should be provided in the present time.

PERUM ASABRI is using the prospective approach because it is considered safe and simple. In this relation the amount of the benefits which can be given to the current members as well as the future ones mainly depends upon the amount of funds which can be provided at present for that purpose. Because of this adopted approach, providing generous funds at present becomes one of the most important program for the company. [Ref. 14]

The government regulation states that the membership for PERUM ASABRI is compulsory for all military personnel and civilian working in DOD, while the contribution is regulated by the Presidential Decision No 56, 1974, which states that 10% of the gross salary should be contributed to the program to be distributed as follows: [Ref. 15]

- a. 4.75% for retirement insurance
- b. 2.00% for health insurance
- c. 3.25% for social insurance

This contribution is withheld and transferred into PERUM ASABRI. In practice since 1976 PERUM ASABRI has always received in advance the money from DOD, as large as 3.25% of 80% from the approved personnel payroll budget, for each of the incoming budget year. This is based on past experience, that the budget proposal by DOD is always higher than the actual payroll, so the rest will be reconciled at the end of the budget year based on the real personnel payroll. It does not mean that the rest is always 20% of the approved payroll

budget. Most of the time it is zero. [Ref. 16] This financial arrangement, though, is considered very favorable for the company, since they can develop the fund vastly in whatever way they decide. With a secure inflow like that, the company can set a program and manage the unused funds in the most optimal manner, and in the most profitable and secure way possible.

Considering that the members contribute 3.25% from their gross salary every month, within 30 months they will have paid a contribution as large as 100% of the monthly gross salary. Assuming other things remain constant, namely no changes in pay rate and the contribution, in every other 30 months the benefits scale should be fairly increased by at least one month of take home pay, even if the interest factor were ignored.

### 3. The Current Investment Policy

#### a. The Sources of the Investment Funds

1) The sources of the funds available to be invested are the contribution from the members collected through DCD, in addition to the returns from existing investment.

2) The amount of the contribution received from the members are:

a) 1.25% of gross pay, when ASABRI was first established in 1971.

b) 3.25% of gross pay, since 1975

#### b. The Principles of Investment Policy

1) From the time PERUM ASABRI was established, they have the obligation to pay the benefits to the members who have retired since August 1, 1971 and to those who retired before then but have not received the benefits from PERUM TASPEN.

2) Upon its establishment, the funds being acquired by PERUM ASABRI amounted to Rp.339.824.968,54 consisting of:

a) The cash value from PERUM TASPEN	= Rp.109.824.968,54
b) Appropriations from Directorate General of Budgetting	= Rp.230.000.000,00
Total	= Rp.339.824.968,54

3) Considering the limited amount of funds that could be accumulated at that time relative to the obligations to be fulfilled, from the early days the investment policy was directed toward the investment type that can meet the following conditions:

- a) Quick yielding investment, meaning a short term investment
- b) Liquid, meaning that the investment can be transferred to monetary form instantly
- c) Low possible risk
- d) Giving return of investment at least to cover its operating expenses.

4) The company avoids the sort of investment bearing speculative factors. On the other hand, they realize that such preferred investment with those prime qualifications would be limited in existence and giving a lower return compared to some riskier type of investment.

5) In a further development, the investment policy should be in accordance with the directions designated by the Financial Minister's Decision No.351/MK/IV/1975 dated April 7, 1975 regarding the funds to be invested by the life insurance company in Indonesia, which can be planted only in the field of: [Ref. 17]

- a) Time Deposits
- b) Land and Building
- c) Mortgage

- d) Policy Loan
- e) Bonds and Securities.

Nevertheless, the principle policy on investment being applied so far is the safety of the investment itself, because all the funds being invested along with all their returns belong to the members, which should be paid back at a later time as a benefits scheme.

c. Based on the above arguments, the forms and types of investment currently being applied are:

1) The time deposit becomes the type of investment being widely applied since the early times, because this is the only type that meet both requirement mentioned in subsection 3.b.3) and 5).

2) Guided by the Financial Minister's Decision, the mortgage loan transaction sporadically had been applied with the third parties, where PERUM ASABRI could obtain fixed returns which were higher compared with the time deposits rate available at that time.

3) Besides those discussed above, investment in the form of buying lands was also made. Land investment doesn't give monthly returns, but the ever increasing land price gives the promise of a one-time big profit whenever being resold at a later time.

4) Starting in mid 1978, investment program in buying promissory notes which were issued by monetary institutions other than banks were developed with the following considerations: :

a) The promissory notes' rate of interest is higher than the time deposits.

b) The characteristics of the time deposits can be found in promissory notes.

c) The promissory notes can meet the short term liquidity demand, since the period of time can be arranged between a week and three months.

5) In accordance with the issuance of the Financial Minister's Decision No 313/MK/VII/1979 dated July 13, 1979 whereas PERUM ASABRI was stated as a legal entity eligible as a purchaser in the stock market, the company had tried to diversify its funds through the stock market starting in December 1979 with the following considerations:

a) Adapting the principle of spreading the risk in investment.

b) Buying stocks, besides earning dividend, also gives the opportunity for hedging against inflation because of the possibility in capital gain whenever being resold.

c) The government regulation related to the stock market tends to protect the investors' interest, so that investing funds through stock market is fairly safe.

As a follow up of investing funds through the stock market PERUM ASABRI has been purchasing and reselling stocks of the companies having gone public. At the present time, in addition to stocks, the certificate of PT.DANAREKSA and bonds issued by the government-owned companies or joint private and government company are also available in the market.

#### 4. The Investment Returns

##### a. Rate of Return.

The investment returns which could be acquired by PERUM ASABRI from the above mentioned investments were basically determined by the rate of returns provided by the related investment outlets. In other words, the rate of returns that can be obtained is given, meaning that PERUM ASABRI and other investors in general can not influence the rate because the rate mechanism is determined mainly by the government through its official banks.

b. Time Deposits Offered by Government and Private National Banks.

1) From the time PERUM ASABRI was established in 1971 until May 1983, the rate of interest from time deposits in government banks had declined drastically as shown in Table II .

TABLE II				
The Rate of Interest of the Government Banks				
<u>Deposit Period</u>	<u>1971</u>	<u>12-28-74</u>	<u>1-13-77</u>	<u>Until May 83</u>
24 Months	30%	24%	18%	12%
18 Months	24%	21%	-	-
12 Months	18%	15%	12%	9%
6 Months	15%	12%	9%	6%
3 Months	12%	9%	6%	3%

After the new banking policy was announced on May 31, 1983, the deposit rate of interest at the government banks tended to follow the deposit rate of interest at the private national banks. To what extent this tendency would go can not be anticipated. In fact, until about the middle of 1976 PERUM ASABRI could not enjoy the high rate of interest from the time deposit of 18 and 24 months, because the funds available at that time could only be deposited for the maximum period of 12 months. This was because of the following reasons:

- The contributors were transferred from DOD once in three months, and sometimes even delayed, which means most of the funds could be only possible deposited for the period

of 3 to 12 months considering they should be acting as the liquidity bumper for the vacant months.

- With the contribution of only 1.25% from the take-home pay, the funds being gathered was relatively small, so that almost impossible to deposit them in period of more than 12 months. Accordingly the rate of interest being enjoyed between 1971-1975 was between 9%-18% per year.

2) In accordance with the letter of the Chief of Staff, DOD for Administration No B/550/II/I/SMIN dated february 6, 1981 to make a trial investment for the funds in bonafide private national banks, PERUM ASABRI was encouraged to deposit its funds in selected private national banks. The interest rate in private national banks between 1980 and 1983 was stable enough, varying between 18%-18.5% for the deposit period of 12 months. This interest was more attractive compared with the rate in the government banks bearing only 9% for the similar period of deposit.

c. The Rate of Interest of Promissory Notes.

The utilization of the funds through promissory notes and non banking institution began from middle of 1978. The interest rate of promissory notes sometimes bear a wide fluctuation, because they form as an instrument in money market for the short period of time, for the maximum of six months. Accordingly the interest rate was determined at the time the notes were purchased using existing market-rate.

Nevertheless, within the last three years, until March 1983 (just before the rupiah devaluation) the average interest rate of promissory notes varied between 17%-19% for the three month-period. This means that until March 1983, the interest rate of promissory notes was much higher than the interest on those provided by the private national banks. Considering the characteristics of promissory notes as a short period outlet, the utilization of funds through

this instrument will also meet the very short liquidity demand.

d. Securities.

1) Marketable Securities. Income from the possession of securities known as dividend usually occurred twice a year. The amount of the dividend is not fixed, depending upon:

- the amount of profit being obtained by related corporation.

- the pay-out ratio, the corporate policy in determining the portion of net income distributed to the shareholders as dividend.

This is fully understandable, since each company has different policy in planning their future program.

TABLE III

The Rate of Dividend given by 13 Corporations

- Semen Cibinong	14.96%
- P.T. Centex	25.75%
- E.A.T. Indonesia	13.54%
- Tificc	17.46%
- Richardson Vicks Indonesia	20.44%
- Good Year Indonesia	10.88%
- Merck Indnesia	17.63%
- Unilever Indonesia	16.77%
- Multi Bintang	14.64%
- Eata	18.03%
- Unitex	12.00%
- Eayer Indnesia	17.35%
- SuCaco	11.81%

The yearly average rate of dividends given by the 13 different corporations which already went public are as shown in Table III .



Those percentages of course, would be smaller if the shares were bought from secondary market, since the secondary market usually offered a higher price compared with the primary market. As a result, in addition to that benefit, if they sold these marketable securities through the secondary market, they would obtain capital gains, that is the positive difference between the purchasing price and the selling price.

2) The certificate of PT DANAREKSA. PT DANAREKSA is a government owned company based on Government Regulation No 25, 1976 and the Presidential Decision No 52, 1976 with its mission of purchasing marketable securities of the going public corporation from the primary market for the purpose of making profit and stimulating the capital market, and later selling certificates to public so that the public could also enjoy the distributed profit being obtained.

The certificate of PT DANAREKSA consists of two kinds:

- Certificates which are supported by single corporation securities, such as the certificate for PT SEMEN CIBINCING securities, or certificate for PT B.A.T. etc.

- Certificates which are supported by multiple corporation securities or promissory notes.

The certificate of PT DANAREKSA appears to be a very liquid outlet of investment, since PT DANAREKSA guarantees to repurchase those certificate anytime, which in practice can be done either by PT DANAREKSA or the government banks as its agents, with the price being announced every week with the warranty of at least as its nominal price. Until now each series of the certificate gives the dividend of 2 x Rp.900, or Rp.1800, a year, which means bearing an interest rate of 18% from its nominal price.

e. Bonds.

Since February 1983 the Indonesian capital market has been crowded by the bond emission of PT JASA MARGA, followed by the bonds of BAPINDO in March 1983 and the bonds of PT PAFAN SEJAHTERA in June 1983. Different from securities that provide varying amount of dividend, bonds give a fixed interest until their maturity date. All above mentioned bonds have a 5-year period with a similar fixed interest of 15.5% a year.

f. Other outlets.

The development of funds through mortgage and credit loan being done so far has been giving interest rate as it is applicable in the spot market, i.e around 18% a year.

5. The Composition of the Invested Funds

Until 1977, about 90% of the invested funds were in the form of time deposits at government banks. Only a small portion were invested on land and mortgage with a third party.

Since the middle of 1978, investment in promissory notes started. Since the end of 1979, investment in capital market begun. And since 1981, until September 1982, the investment in time deposits through the private national banks was also being done.

From the composition of the invested funds since 1975 until now, it can be observed that time deposits are the major dominant investing outlet of PERUM ASABRI. From the overall outlook, almost 97% from all the investible funds were planted in the form of current investment, i.e time deposits, promissory notes, marketable securities, and mortgage with the third party.

Having completed our discussion of the financial position of PERUM ASAERI, and all benefits provided by the company, the analyses of the benefit system will depart from those above discussion. The next chapter will introduce the present value model as a method to be used for calculating the contribution paid and the benefits received by the members.

**TABLE X**  
**The Burial Compensation**  
(in rupiah)

No.	Retired Date	Death date		Notes
		Before 1-1-81	1-1-81/3-31-82	
1.	8-1-71/1-1-75			Given to the members who died within the retirement status.
2.	2-1-75/4-1-77	26.000,	25.000,	
3.	5-1-77/.....	52.000,	40.000,	
	Charter	Kep/19/VIII/77 dated 8-1-1977	Kep/27/XII/80 dated 12-30-80	Kep/4/II/82 dated 2-2-82

Death Risk Insurance and Burial Compensation  
Benefits (Table IX):

This table shows the development of the company's policy in providing the Death Risk Insurance and the Burial Compensation Benefits.

- Formerly, when a member died, the dependent will obtain DRI and BCB at the amount for the respective rank, in the table. The death could happen either within his active or retirement period.

- Later, since 1 April, 1977 the Death Risk Insurance Benefit was only given to the member who died before terminate from work. DRI is combined with the Cash Value Benefit.

The Burial Compensation Benefit then is given to members who died in his retirement status (Table X). Hence, this program is given combinedly with the lump-sum payment benefit, which is given to the members who are survival and get retired.

**TABLE IX**  
**Death Risk Insurance and Burial Compensation Benefits**  
(D.R.I and B.C.B in rupiah)

Nc.	Date of Death	Groups	D.R.I	B.C.B	Charter
1.	8-1-71/6-30-74	Flag Officer Senior Officer Junior Officer Petty Officer Enlistedmen	10.000, 10.000, 10.000, 10.000, 10.000,	10.000, 8.000, 6.000, 4.000, 2.000,	Kep/A/43/VIII/71 dated 8-30-1971 (given to the members who died within his acti- ve or retirement period)
2.	7-1-74/12-31-74	Flag Officer Senior Officer Junior Officer Petty Officer Enlistedmen	12.500, 12.500, 12.500, 12.500, 12.500,	12.500, 10.000, 7.500, 5.000, 3.000,	
3.	1-1-75/3-31-77	All Groups	4xTHP	2xTHP	Skep/29/VIII/75 dated 8-22-1975 (given to the members who died before terminate from work)
4.	4-1-77/.....	Flag/Senior Junior Officer Petty Officer Enlistedmen	6.0xGP 6.5xGP 7.0xGP 7.5xGP	- - - -	

Cash Value Benefit (Table VII and VIII):

This benefit is designed for those who:

1. Terminate work from the service without having the right of retirement plan.
2. Terminate work because of death while in active duty.

Reassessment have been made many times to meet the fair value of the benefit for the members terminating from the service. The reassessment is also important to be in harmony with the change being made for the lump-sum payment benefit.

Some variables in the formula are being used to make a reasonable calculation. Those are:

a = the annuity, the amount of contribution being paid

x = the age of member when assumed the membership

n = the contribution period being done

m = the period between x and the minimal age of having the right of retirement plan according to each member's group in rank.

TABLE VIII

## The Cash Value Benefit (Continued)

Termination	The Cash Value / Formula	Charter & Notes
5. 8-1-81/ 7-30-82	$\frac{a.x : n}{a.x : m} \times 3.5 \text{ last pay.}$ $\frac{a.x : n}{a.x : m} \times 3.5 \text{ last pay.}$ <p>noting if n g.e. m the cash value is 3.5 last pay.</p>	Kep/18/VII/81 dated 7-24-1981. Given to members terminate work without the right of retirement plan because of death within active duty or other reason.
6. 7-31-82/ 10-31-83	$\frac{a.x : n}{a.x : m} \times 4 \text{ last pay.}$ $\frac{a.x : n}{a.x : m} \times 4 \text{ last pay.}$ <p>noting if n g.e. m the cash value is 4.0 last pay.</p>	Kep/20/VI/82 dated 6-24-1982. Given to members terminate work without the right of retirement plan because of death within active duty.
7. 11-1-83/ .....	$\frac{a.x : n}{a.x : m} \times 5 \text{ last pay.}$ $\frac{a.x : n}{a.x : m} \times 5 \text{ last pay.}$ <p>noting if n g.e. m the cash value is 5.0 last pay.</p>	Kep/551/M/X/83 dated 10-20-1983. Given to members terminate work without the right of retirement plan because of death within active duty.



TABLE VII  
The Cash Value Benefit

Termination	The Cash Value / Formula	Charter & Notes
1. 8-1-71/ 6-30-74	Contr. years ----- 20 x benefit according to the group. (see Table VI)	Kep/A/43/VIII/71 dated 8-30-1971. Given to members terminate work without the right of retirement plan.
2. 7-1-74/ 12-31-74	Contr. years ----- 20 x benefit according to the group. (see Table VI)	Skep/F/742/VI/74 dated 6-25-1974. Given to members terminate work before reaching their retirement plan and at least have paid one year of contribution.
3. 1-1-75/ 3-31-77	Contr. years ----- 20 x THP	Skep/29/VIII/75 dated 8-22-1975. Given to members terminate work before reaching their retirement plan, because of death or other reason.
4. 4-1-77/ 7-31-81	1. For the members having n=12 years or over, the formula is: $n/20 \times 3,5$ last pay (with the max. of 3,5 last pay)  2. For the members having n less than 12 years, the formula is: $(100\% + (12-n) \times 7\%) \times$ $(n/20 \times (3,5 \text{ last pay}))$	Kep/19/VIII/77 dated 8-1-1977. Given to members terminate work without having the right of retirement plan, because of death within active duty.

Lump-Sum Payment Benefit (Table VI):

Since PERUM ASABRI was established, the lump-sum payment benefit has been reassessed five times to meet a higher compensation of the members being retired from the service.

At the early stages, PERUM ASABRI differentiated the amount according to the groups. When it was established, the amount of Rp.24.000, was used as the basic calculation:

- 1 x Rp.24.000, for the Enlistedmem
- 2 x Rp.24.000, for the Petty Officer
- 3 x Rp.24.000, for the Junior Officer
- 4 x Rp.24.000, for the Senior Officer
- 5 x Rp.24.000, for the Flag Officer

Later the basic calculation for the amount is the last gross pay, based on the payscale which is already differentiated according to the ranks or groups. So if the payscale is well accepted, then the amount is determined by multiplying it with a certain number.

**TABLE VI**  
**The Lump-Sum Payment Benefit**  
( in rupiah )

No.	Retired Date	The Amount of Insurance		Charter
		Groups	Amount	
1.	8-1-71/6-30-74	Flag Officer Senior Officer Junior Officer Petty Officer Enlistedmen	120.000, 96.000, 72.000, 48.000, 24.000,	Kep/A/43/VIII/71 dated 8-30-1971
2.	7-1-74/12-31-74	Flag Officer Senior Officer Junior Officer Petty Officer Enlistedmen	150.000, 120.000, 90.000, 60.000, 36.000,	Skep/F/742/VI/74 dated 6-25-1974
3.	1-1-75/4-30-77	All Groups	2,5 X THF (min. 30.000)	Skep/29/VIII/75 dated 8-22-1975
4.	5-1-77/7-31-82	All Groups	3,5 X Gr.P	Kep/19/VIII/77 dated 8-1-1977
5.	8-1-82/10-31-83	All Groups	4,0 X Gr.P	Kep/20/VI/82 dated 6-24-1982
6.	1-11-83/.....	All Groups	5,0 X Gr.P	Kep/551/M/X/83 dated 10-20-1983

## C. THE BENEFIT SCHEMES

### 1. The Type of Benefits

The types<sup>2</sup> of benefits provided by PERUM ASABRI consist of:

- a. Lump-sum payment benefit ( Table VI)
- b. Cash value benefit ( Table VII and VIII )
- c. Death risk benefit ( Table IX)
- d. Burial compensation ( Table X)

### 2. The Rights of the Beneficiaries.

a. Those members of the military personnel and the civilian personnel of DOD who leave with the right of retirement dated since August 1, 1971 or thereafter, will be given the lump-sum payment benefit.

b. For those members who terminate the employment because of death within their active duties since August 1, 1971 or thereafter, their survivors will receive:

- 1) Death risk benefit
- 2) Cash value benefit

c. Those members enrolled as civilian of DOD as of July 1, 1975 or before, having reached the maximum year of enrollment upon which its time of retirement will be less than 12 years of membership, will be given the cash value benefit.

d. Those members who terminate employment without the right of retirement plan nor because of death in active duties, dated August 1, 1971 or thereafter, will receive the cash value benefit.

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<sup>2</sup>The main sources of this section is: 'Petunjuk untuk Mendapatkan Santunan ASABRI' [Ref. 6]

**TABLE V**  
**The Financial Situation of PERUM ASABRI**  
(in thousand rupiah )

Year	Inv. Funds	Inv. Returns	Contribution	Benefits	Ncn Benefits
1	2	3	4	5	6
1971	843.750,	22.218,	-	-	-
1972	1.495.186,	135.295,	954.878,	663.111,	107.334,
1973	2.119.356,	167.227,	1.232.838,	814.725,	147.319,
1974	1.209.845,	223.983,	1.970.761,	1.689.332,	233.310,
1975	4.384.345,	219.555,	5.065.714,	2.468.111,	245.374,
1976	5.936.777,	713.762,	4.974.132,	3.949.156,	318.133,
1977	10.197.381,	1.678.650,	6.443.533,	3.240.599,	290.793,
1978	13.892.698,	2.592.855,	6.592.855,	4.406.871,	296.518,
1979	17.385.198,	2.087.585,	8.035.931,	4.223.561,	351.174,
1980	24.623.986,	3.225.785,	9.626.795,	4.505.611,	432.410,
1981	36.169.579,	5.270.960,	14.341.832,	6.048.723,	504.896,
1982	51.768.426,	7.455.686,	14.629.969,	5.174.300,	537.364,

With the sort of investment as mentioned above, the position of the invested funds and its returns every year can be seen in Table V from which one can observe the position of the funds since its inception: (omit year 1971)

- The invested funds have increased 37 times
- The investment returns have increased 55 times.

As a public enterprise, PERUM ASABRI should be managed with business principles, meaning that all expenses should be covered by its income, or, in other words, no deficit should occur.

From Table V one can analyze that the returns on investment done by PERUM ASABRI, from the year of its establishment, has always been increasing in amount, along with the increase of the investible fund. This was made possible by the fact that the expenditures (benefits and non benefits) have always been lower than the collected contributions from the members. The difference, together with the returns of existing investment, can be accumulated, resulting in an ever increasing invested funds.

It can also be observed that the benefits being paid each year is always lower than the contributions being received. This means that the existing actuarial calculation has been done very conservatively, because in a social insurance principles, a strong established funds should be created in early years, in order to be able to meet its long range obligation, which certainly will always be growing.

The percentage of the benefits payment to the contribution received from 1979 until 1982 was always decreasing. This indicates that the benefit tables should be reassessed.

TABLE IV  
The Composition of the Invested Funds

Year	Time Deposits			Prom- Notes	Market- Secur.	Third Party	Lands	Total
	Gov. Banks	Fr. Nat. Banks						
1975	86.99%	-	-	-	-	7.42%	5.59%	100%
1976	91.65%	-	-	-	-	4.23%	4.12%	100%
1977	91.83%	-	-	-	-	3.57%	4.60%	100%
1978	79.26%	-	14.49%	-	-	2.88%	3.37%	100%
1979	58.02%	-	37.84%	-	-	1.24%	2.90%	100%
1980	23.57%	4.07%	54.44%	15.86%	-	0.95%	1.11%	100%
1981	8.29%	40.08%	28.47%	12.83%	-	9.67%	0.66%	100%
1982	32.84%	37.49%	9.57%	16.27%	-	3.29%	0.26%	100%
May, 83	41.13%	20.61%	16.23%	18.94%	-	2.87%	0.22%	100%

The investment composition as is shown in Table IV is the company's implementation of the Financial Minister's Decision No 351, 1975 with the consideration that:

a. Time deposits give monthly interest within a relatively long period (more than 12 months), so the funds not distributed can be deposited in this form, providing the safest way of investment.

b. Promissory notes being applied are the most current concession besides giving a relatively high interest.

c. Marketable securities perform a flexible investment, because they can be used as short, medium, as well as long term investment, depending on the existing economic situation.



#### IV. THE PRESENT VALUE MODEL FOR THE BENEFITS CALCULATION

##### A. ASSUMPTIONS

Social change will to some extent unavoidably nullify the theory or analyses made with regard to a static situation. The insurance program under examination embraces a length of time and social change may influence what are at one point fitted conclusions. For that reason some assumptions should be made in analyzing the social insurance system as it presently exists.

1. It is assumed that the payscale will not change. Although in reality there will be some change in payscale due to a fluid economic conditions, such changes will be reflected in the contributions and benefits proportionally. Furthermore the changes in payscale can not be anticipated in advance, so a calculation can not be made without this assumption.

2. It is assumed that the payscale being applied now is considered fair and is fully accepted by the members. It means that each group on the payscale has no complaint about the scale as a merit system. It is also assumed that the policy maker believes the same and that no significant change will happen in the merit system. This is important because the basic benefit calculation being used by PERUM ASABRI is the current payscale. The reason for using a payscale measure to determine the benefit amount rather than using a fixed monetary amount is to avoid the inflationary effect which will harm the value of benefit, if a fixed monetary amount is being used.

3. It is assumed that the interest rate in Indonesia is 12%. Although the real interest rate of the government

banks varies around 12% while the interest rate for the saving account in commercial banks is about 18%, the social insurance program is not a pure saving program. For the sake of this analyses, the interest rate of 12% as was offered by the government banks for period of 24 months (Table II) is being applied for the whole period of calculation.

## B. SIMPLIFICATIONS

1. Which Benefit is the Object of Analyses? Since there are four kind of benefits provided by PERUM ASABRI, it is important to reduce and limit the scope by choosing a specific benefit as the object of analyses. The main issue is what will happen to the members later on as far as their insurance program is concerned?

a. Members may die during their active duties. In this case PERUM ASABRI would provide them with:

- 1) Cash Value Benefit (Table VII and VIII)
- 2) Death Risk Benefit (Table IX)

b. Members probably would survive and retired after a certain length of time in the service. In this case PERUM ASABRI would provide them with:

- 1) Lump-Sum Payment Benefit (Table VI), upon the retirement date.
- 2) Burial Compensation (Table X), when they die after retirement.

c. Members may resign or quit from the service before earning the right of retirement plan and, according to the insurance's chapter, PERUM ASABRI would provide them with cash value benefit. Those members who resign from the military are not significant in number because if they resign

before they are entitled to retirement benefit, their service will be meaningless for their pension plan. Members who resign are probably do so for the following reasons:

- 1) Do not fit into the military life
- 2) Commit a crime resulting in heavy discipline
- 3) Unsatisfied with their current assignment or

career.

Whatever the reason of their resignation, those members will obtain cash value benefit. The amount is calculated based on the contribution paid to the company during their time spent in the service.

Since the calculation of the cash value benefit given to the members who died or resign from the service is based mainly on the length of their contribution payment, the benefit takes the term of a saving program to compensate them for the discontinuity of the program. Therefore the amount of cash value benefit given to beneficiaries is equal to the value of the members savings until that time. This fact does not affect the formula being used in calculating the cash value benefit and therefore does not influence the fairness consideration.

The death risk benefit given to members who died while in active duties is really the benefit given away by PERUM ASABRI. This is the real risk born by the company. The higher the amount of death risk benefit, the better it will be for the survivor. A significant amount of this benefit will be a real help for the survivors. On the other hand, the higher the amount of death risk benefit, the heavier the burden being carried by the company. Since death risk benefit is a give away benefit, it is unreasonable for members to argue the fairness of this benefit. This study again will assume the death risk benefit is sufficiently fair, except that the company differentiates the benefit

multiplier for the different scale groups. As the payscale is already differentiated among the groups, it is not necessary to differentiate the multiplier on the death risk benefit.

The lump-sum payment benefit, combined with burial compensation, will be received by most of the members of the program, since the survivor and retired members are the largest beneficiaries of this insurance program. Every member expects to survive and retire. These individuals represent the vast majority of plan members. Therefore the focal analysis of this thesis will be on the calculation of the lump-sum payment benefit and the burial compensation. That is related with the function of PERUM ASABRI AS the saving insurance program.

2. For the purpose of simplification, the inflation rate will not be considered in this calculation. Although this simplification will favor the company, the idea being used are as follows:

a. Part of the inflation has been covered by the interest rate being used.

b. Part of the inflation will be hedged by the increase of payscale, which is assumed to be unchanged for the reason given above.

For these reasons the inflation rate, which in fact reached 9.7% in Indonesia in 1982, should be excluded from the calculation.

3. Members will be in the service between 20 years and 32 years for officers, and between 20 years and 28 years for the enlisted and petty officers. This simplification is made based on the minimal and maximum ages for the military retirement plan, which will draw the most population lying between those ranges.

4. Promotion will basically follow the normal pattern<sup>3</sup> career, where in this study members are grouped as fast, medium and slow promoted personnels during their career, so that a certain pay/promotion for members can be plotted and calculated easily. The factual discrepancy will not nullify the result because almost all career will lie in between the slow and the fast promotion plans.

5. The analysis will use the base pay, instead of the gross pay, in its calculation. Hence the marital status of the members is ignored. In reality, almost 100% of male military personnel get married during their career, while some of the female military personnel stay single. The spouse allowance is 5% of the base pay, while children (maximum of three) will get allowance of 2.5% each. The increase in take home pay as a result of marriage will increase proportionally the contribution paid, and later the amount of the benefits received. Therefore, marital status can be ignored in the model.

6. Although the life expectancy in Indonesia is 48 years, [Ref. 19] it is assumed that, on the average, Indonesian military personnel will die in 10 years after retirement and the dependent will obtain the burial compensation.

#### C. THE MODEL

Based on the above mentioned assumptions and simplifications, a model of a member of PERUM ASABRI having the obligation of paying contribution and the right of receiving benefits can be understood as follows:

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<sup>3</sup>Keputusan MENHANKAM/PANGAB No: KEP/A 8/II/1972 tgl. 23-Februari-1972 tentang Pokok-pokok Pembinaan Personil Sukarela Angkatan Bersenjata Republik Indonesia. [Ref. 18]

1. A person enrolls in the military service on January 1, Year 0.

2. He will automatically become the member of PERUM ASABRI, and pay the contribution through his salary withholding ( 3.25% \* gross pay every month).

3. He will stay in the service long enough to receive his retirement benefit.

4. Within his career he will get some promotion which will influence his pay scale:

a. Rank promotion.

b. Payscale promotion.

5. The monthly payment of contribution will be counted back to January 1, each year using the monthly annuity due, because the payment is made in advance, with the interest rate of 12%, to find the yearly payment. The annuity due factor is then = 11.368

6. Those yearly payment will be adjusted to their present value, using the present value factor with a 12% interest rate. The accumulation will be added to find the present value of the contribution on January 1, Year 0.

7. By the end of his service, he will terminate his contribution and will obtain the lump-sum payment benefit which is 5 x last gross pay. (The base pay will be used instead). The benefit will be adjusted to its present value, using the present value factor with 12% interest rate, to find the present value of the lump-sum payment benefit on January 1, Year 0.

8. Later on he will die, and his dependent will receive the burial compensation of Rp.90.000, This amount will be discounted to its present value, using the present value factor with 12% interest rate, to find the present value of the burial compensation on January 1, Year 0.

9. The present value of the lump-sum payment benefit, combined with the present value of the burial compensation,

will then be compared with the present value of the contribution payment on January 1, Year 0. A key question to be examined is whether the two numbers match. If not, which one is higher? Table XI shows how the present value method is being used in this analysis.

**TABLE XI**  
**The Present Value Model**

years from enrolment.

← 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 -- 42

Notes :

A. The contribution is paid monthly by members during in the service.

B. The lump-sum payment benefit is obtained upon member's retirement.

C. Burial compensation is obtained upon member's death in his retirement.

All of those payments (A, B, and C) will be discounted to the value on January 1, year 0 to be compared.

(lump sum payment = 5 x last gross monthly pay)

(burial compensation = Rp. 90.000, -)



## V. THE USE OF THE PRESENT VALUE MODEL

In this chapter the model will be applied to a member's contributions and benefits to evaluate its fairness.

### A. THE CAREER PATTERN

In order to make a comparison between the present value of contribution paid and the present value of benefits received by a member, a sample of one person joining the service is designed. A career pattern of a hypothetical officer will be exposed as an example as follows:

- Anyone wishing to become an officer should pass through one of the officer training programs, such as the Indonesian Armed Forces Academy.

- Upon completion of that training, he will be commissioned as a 2nd Lieutenant with 0 year base pay.

- During his career he will follow a promotion pattern (table XII) based on the Minister of Defense Decree No:KEP/A 8/II/1972 dated February-23-1972.

- Based on this pattern and payscale, one can describe the pay/promotion pattern of an officer as follows:

- Table XIII = The Pay/Promotion pattern for a Slow Career Officer.

- Table XIV = The Pay/Promotion pattern for a Medium Career Officer.

- Table XV = The Pay/Promotion pattern for a Fast Career Officer.

In reality the pattern may vary with so many possibilities. However, in the average, these patterns capture the essence of pay/promotion pattern of a vast majority of military officers in Indonesia.

TABLE XII  
The Career Pattern of the Indonesian Officer

(Derived from the Minister of Defense Decree No:KEP/A 8/II/1972)

The Fast Career				
2nd LT	1stLT	CAPT.N.	MAJOR	LTCOL.
				COLONEL
				FLAG OFFICER
Year	0-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31			
The Slow Career				
2nd LT	1stLT	CAPT.N.	MAJOR	LTCOL.
				COLONEL

TABLE XIII  
The Pay/Promotion Pattern for a Slow Career Officer

( in rupiah )

Year	2nd. LT	1st. LT	CAPTN.	MAJOR	LTCOL.	COLONEL
0	38.300,					
1	38.300,					
2	41.900,					
3	45.500,					
4		47.800,				
5		51.600,				
6		55.400,				
7			58.200,			
8			62.200,			
9			66.200,			
10				72.200,		
11				77.000,		
12				77.000,		
13				81.800,		
14					85.800,	
15					85.800,	
16					90.800,	
17					98.300,	
18					98.300,	
19						103.000,
20						110.800,
21						110.800,
22						110.800,
23						110.800,
24						110.800,
25						110.800,
26						110.800,
27						110.800,
28						110.800,
29						110.800,
30						110.800,
31						110.800,

TABLE XIV  
The Pay/Promotion Pattern for a Medium Career Officer

( in rupiah )

Year	2nd. LT	1st. LT	CAFTN.	MAJOR	LTCOL.	COLONEL	BRIG. GEN
0	38.300,						
1	38.300,						
2	41.900,						
3		44.000,					
4		47.800,					
5		47.800,					
6		51.600,					
7			54.200,				
8			58.200,				
9			58.200,				
10			62.200,				
11				67.400,			
12				72.200,			
13				72.200,			
14				77.000,			
15					80.800,		
16					85.800,		
17					85.800,		
18					90.800,		
19					90.800,		
20						95.200,	
21						103.000,	
22						103.000,	
23						103.000,	
24						110.800,	
25						110.800,	
26						110.800,	
27							115.800,
28							115.800,
29							115.800,
30							115.800,

TABLE XV  
The Pay/Promotion Pattern for a Fast Career Officer

( in rupiah )								
Year	2nd.LT	1st.LT	CAPTN.	MAJOR	LTCOL.	COLONEL	ERIG.GEN	MAJ.GEN
0	38.300,							
1	38.300,							
2		44.000,						
3		44.000,						
4		47.800,						
5			50.200,					
6			54.200,					
7			54.200,					
8			58.200,					
9				62.600,				
10				67.400,				
11				67.400,				
12				72.200,				
13					75.800,			
14					80.800,			
15					80.800,			
16					85.800,			
17						90.000,		
18						90.000,		
19						95.200,		
20						95.200,		
21						103.000,		
22						103.000,		
23							107.700,	
24							115.800,	
25							115.800,	
26							115.800,	
27							115.800,	
28								120.000,
29								120.000,
30								120.000,
31								120.000,

## B. THE PRESENT VALUE OF THE CONTRIBUTIONS.

Based on those pay/promotion tables for slow, medium and fast career officers, we can calculate the contributions that he would pay during his military career as shown in the following tables:

- Table XVI : The Present Value of Contributions made by Slow Career Officers.

- Table XVII : The Present Value of Contributions made by Medium Career Officers.

- Table XVIII : The Present Value of Contributions made by Fast Career Officers.

For each of these tables, the calculations are as follows:

Column 1, 2, and 3 are derived from the related pay/promotion pattern tables.

Column 4 is the contribution paid monthly, i.e.,  $3.25\% \times$  base pay of the year in each respective rank/payscale.

Column 5 is the present value of monthly payment, discounted back to the value on January 1 of each year to find the yearly payment, using annuity due factor 11.368.

Column 6 is the present value factor using 12% interest rate being assumed.

Column 7 is the present value of yearly payment (column 5), discounted back to the value on January 1, Year 0.

Column 8 is the cumulative present value of contributions paid after a certain number of years in the service, discounted back to the value on January 1, Year 0.

Using this table, the present value of the contribution paid on January 1, Year 0 and all the related calculation can be seen for a member after any period of time in the service.

TABLE XXV  
The New P.V. Benefits for Fast Career Officers

( in rupiah )

Year	Rank	Basepay	Grat- dual X	Lumpsum Benefits X x Last BP	P.V. Factor Lumpsum	P.V. 1-1-Yr0 Lumpsum	P.V. Factor BurCcm	P.V. 1-1-Yr0 BurCom	P.V. Yr0 BurCom+ Lumpsum
19	2	3	4	5	6	7	8	9	10
0	2nd Lt	38.300,			1		.32197		
-									
-									
-									
19	CC1.	95.200,			.11611		.03738		
20	CC1.	95.200,	5.0	476.000,	.10367	49.347,	.03338	3.004,	52.351,
21	CC1.	103.000,	5.5	523.600,	.09256	48.464,	.02980	2.682,	51.146,
22	CC1.	103.000,	6.0	618.000,	.08264	51.072,	.02661	2.395,	53.467,
23	ERIGEN	107.700,	6.5	669.500,	.07379	49.402,	.02376	2.138,	51.540,
24	ERIGEN	115.800,	7.0	753.900,	.06588	49.667,	.02121	1.909,	51.576,
25	ERIGEN	115.800,	7.5	868.500,	.05882	51.085,	.01894	1.705,	52.790,
26	ERIGEN	115.800,	8.0	926.400,	.05252	48.655,	.01691	1.522,	50.177,
27	ERIGEN	115.800,	8.5	984.300,	.04689	46.154,	.01510	1.359,	47.513,
28	MAJGEN	120.000,	9.0	1.042.200,	.04187	43.637,	.01348	1.213,	44.850,
29	MAJGEN	120.000,	9.5	1.140.000,	.03738	42.613,	.01204	1.084,	43.697,
30	MAJGEN	120.000,	10.0	1.200.000,	.03338	40.056,	.01075	968,	41.024,
31	MAJGEN	120.000,	10.5	1.260.000,	.02980	37.548,	.00960	864,	38.412,
32	MAJGEN		11.0	1.320.000,	.02661	35.125,	.00857	771,	35.896,

**TABLE XXIV**  
**The New P.V. Benefits for Medium Career Officers**

( in rupiah )

Year	Rank	Basepay	Gratual X	Lumpsum benefits X last BP	P.V. Factor Lumpsum	P.V. 1-1-yr0 Lumpsum	P.V. Factor BurCom	P.V. 1-1-yr0 BurCom	P.V. yr0 BurCom+ Lumpsum
1	2	3	4	5	6	7	8	9	10
0	2nd Lt	38.300,			1		.32197		
-									
-									
19	ITCCL.	90.800,			.11611		.03738		
20	CCCL.	95.200,	5.0	454.000,	.10367	47.066,	.03338	3.004,	50.070,
21	COL.	103.000,	5.5	523.600,	.09256	48.464,	.02980	2.682,	51.146,
22	COL.	103.000,	6.0	618.000,	.08264	51.072,	.02661	2.395,	53.467,
23	COL.	103.000,	6.5	669.500,	.07379	49.402,	.02376	2.138,	51.540,
24	COL.	110.800,	7.0	721.000,	.06588	47.499,	.02121	1.909,	49.408,
25	COL.	110.800,	7.5	831.000,	.05882	48.879,	.01894	1.705,	50.584,
26	COL.	110.800,	8.0	886.400,	.05252	46.554,	.01691	1.522,	48.076,
27	BRIGEN	115.800,	8.5	941.800,	.04689	44.161,	.01510	1.359,	45.520,
28	BRIGEN	115.800,	9.0	1042.200,	.04187	43.637,	.01348	1.213,	44.850,
29	BRIGEN	115.800,	9.5	1100.100,	.03738	41.122,	.01204	1.084,	42.206,
30	BRIGEN	115.800,	10.0	1158.000,	.03338	38.654,	.01075	968,	39.622,
31	BRIGEN	115.800,	10.5	1215.900,	.02980	36.234,	.00960	864,	37.098,
32	BRIGEN		11.0	1273.800,	.02661	33.896,	.00857	771,	34.667,



**TABLE XXIII**  
**The New P.V. Benefits for Slow Career Officers**

( in rupiah )

Year	Rank	Basepay	Gradual x	Lumpsum benefits x last BP	P.V. Factor Lumpsum	P.V. 1-1-yr0 Lumpsum	P.V. Factor BurCcm	P.V. 1-1-yr0 BurCom	P.V.-yr0 BurCom+ Lumpsum
1	2	3	4	5	6	7	8	9	10
0	2nd LT	38.300,			1		.32157		
-									
-									
-									
19	ITCOL.	90.800,			.11611		.03738		
20	ITCOL.	90.800,	5.0	454.000,	.10367	47.066,	.03338	3.004,	50.070,
21	ITCOL.	98.300,	5.5	499.400,	.09256	46.224,	.02980	2.682,	48.906,
22	ITCOL.	98.300,	6.0	589.800,	.08264	48.741,	.02661	2.395,	51.136,
23	COL.	103.000,	6.5	638.950,	.07379	47.148,	.02376	2.138,	49.286,
24	COL.	110.800,	7.0	721.000,	.06588	47.495,	.02121	1.909,	49.408,
25	COL.	110.800,	7.5	831.000,	.05882	48.879,	.01894	1.705,	50.584,
26	COL.	110.800,	8.0	886.400,	.05252	46.554,	.01691	1.522,	48.076,
27	COL.	110.800,	8.5	941.800,	.04689	44.161,	.01510	1.359,	45.520,
28	COL.	110.800,	9.0	997.200,	.04187	41.752,	.01348	1.213,	42.966,
29	COL.	110.800,	9.5	1.052.600,	.03738	39.346,	.01204	1.084,	40.430,
30	COL.	110.800,	10.0	1.108.000,	.03338	36.985,	.01075	968,	37.953,
31	COL.	110.800,	10.5	1.163.400,	.02980	34.669,	.00960	864,	35.533,
32	COL.		11.0	1.218.800,	.02661	32.432,	.00857	771,	33.203,

lump-sum payment should be created. As an example, assume the current benefit scale will be applicable to members who retired after 20 years in the service, we may increase the multiplier for additional years of service, such as  $12/30 * \text{gross pay} = 0.40 \text{ gross pay}$ . Because of the 12% interest rate being considered in this calculation, a rounded up of 0.50 gross pay is suggested to be added to this new lump-sum payment benefit for every additional year. It means if a member retires after 21 years in the service, he will get a lump-sum payment of  $5.5 * \text{gross pay}$ .

After 22 years he will get  $6.00 * \text{gross pay}$ .

After 23 years he will get  $6.50 * \text{gross pay}$ , and so on.

Using this formula, new present value benefits tables can be created as follows:

Table XXIII : The New P.V. Benefits for Slow Career Officers.

Table XXIV : The New P.V. Benefits for Medium Career Officers.

Table XXV : The New P.V. Benefits for Fast Career Officers.

By using tables of P.V. Contributions constructed earlier (Table XVI, XVII, and XVIII), we can combine those data and create a new ratio table (Table XXVI) to see what will the ratio look like after the adjustment. The new ratio of present value of benefits and contributions are still decreasing from year to year, but it appears to be much better and more reasonable for the members in the insurance program.

#### D. THE COMPARISON OF THE P.V.OF CONTRIBUTIONS AND BENEFITS.

From the figures of the present value of contributions (Table XVI, XVII, and XVIII) and the present value for benefits (Table XIX, XX, and XXI), a comparison can be made by a member of PERUM ASABRI or any decision maker in evaluating the fairness of the contributions/benefits ratio. Table XXII shows the comparison between those figures and the ratio between the benefits and the contributions for slow, medium and fast career officers.

It can be analyzed as follows:

1. The present value of benefits a member will receive is very low compared with the present value of contributions paid by that member.

2. There is no significant differences in the ratio of the benefits and the contributions among the slow, medium and fast career officer.

3. The longer a member stays in the service, the smaller the present value of benefits he would obtain. The longer a member stays in the service the larger the present value of contributions he would pay. Hence, the longer a member serves in the service, the smaller the ratio of the benefits and contributions in the present value calculation. This evidence shows that the lump-sum payment benefit scheme using a constant multiplier being applied (in this case 5) is not in line with the merit system, where the longer a member stays in the service, the higher the benefit he would obtained.

The idea discussed in Chapter III that in every 30 months a member will pay an additional of one month gross pay, will be taken into consideration for further analyses. It seems that multiplier for the lump-sum payment benefit should be on based of a graduated scale according to the length of service. A base of multiplier to be used in a new

TABLE XVII  
The Ratio of P.V of the Benefits and the Contributions

( in rupiah )

Year	Slow Career			Medium Career			Fast Career		
	P.V. 1-1-Year-0	Benefit	Ratio	P.V. 1-1-Year-0	Benefit	Ratio	P.V. 1-1-Year-0	Benefit	Ratio
20	50.070,	160.019,	.3129	50.070,	163.963	.3054	52.351,	167.744,	.3121
21	44.704,	163.497,	.2734	46.741,	167.609,	.2789	46.741,	171.390,	.2727
22	43.013,	166.859,	.2578	44.955,	171.132,	.2627	44.555,	174.913,	.2570
23	38.406,	169.861,	.2261	40.140,	174.277,	.2303	40.140,	178.058,	.2254
24	35.837,	172.669,	.2075	35.837,	177.085,	.2024	37.385,	180.994,	.2066
25	34.291,	175.366,	.1955	35.291,	179.782,	.1963	35.762,	183.813,	.1946
26	30.618,	177.774,	.1722	30.618,	182.190,	.1681	31.931,	186.330,	.1714
27	27.336,	179.924,	.1519	27.336,	184.340,	.1483	28.508,	188.577,	.1518
28	24.409,	181.843,	.1342	25.456,	186.346,	.1366	25.436,	190.583,	.1335
29	21.793,	183.557,	.1187	21.751,	188.138,	.1156	23.512,	192.439,	.1222
30	19.461,	185.087,	.1051	20.295,	189.737,	.1070	20.596,	194.096,	.1082
31	16.875,	186.451,	.0905	18.118,	191.165,	.0948	18.204,	195.576,	.0931
32	15.513,	187.671,	.0827	16.178,	192.440,	.0841	16.737,	196.897,	.0850

TABLE XXI  
The Present Value Benefits for Past Career Officers

( in rupiah )

Year	Rank	Basepay	Lumpsum benefits 5xLastBP	P.V. Factor Lumpsum	P.V. 1-1-Yr0 Lumpsum	P.V. Factor BurCom	P.V. 1-1-Yr0 BurCom	P.V.Yr0 BurCom + Lumpsum
1	2	3	4	5	6	7	8	9
0	2nd LT	38.300,		1		-32197		
-								
-								
19	COL.	95.200,		.11611		-.03738		
20	CCL.	95.200,	476.000,	.10367	49.347,	-.03338	3.004,	52.351,
21	CCL.	103.000,	476.000,	-.09256	49.059,	-.02980	2.682,	46.741,
22	CCL.	103.000,	515.000,	-.08264	42.560,	-.02661	2.395,	44.955,
23	ERIGEN	107.700,	515.000,	-.07379	38.002,	-.02376	2.138,	40.140,
24	ERIGEN	115.800,	538.500,	-.06588	35.476,	-.02121	1.909,	37.385,
25	ERIGEN	115.800,	579.000,	-.05882	34.057,	-.01894	1.705,	35.762,
26	ERIGEN	115.800,	579.000,	-.05252	30.409,	-.01691	1.522,	31.931,
27	ERIGEN	115.800,	579.000,	-.04689	27.149,	-.01510	1.359,	28.508,
28	MAJGEN	120.000,	579.000,	-.04187	24.223,	-.01348	1.213,	25.436,
29	MAJGEN	120.000,	600.000,	-.03738	22.428,	-.01204	1.084,	23.512,
30	MAJGEN	120.000,	600.000,	-.03338	20.028,	-.01075	968,	20.996,
31	MAJGEN	120.000,	600.000,	-.02980	17.340,	-.00960	864,	18.204,
32	MAJGEN		600.000,	-.02661	15.966,	-.00857	771,	16.737,

**TABLE XX**  
**The Present Value Benefits for Medium Career Officers**

( in rupiah )

Year	Rank	Basepay	Lumpsum benefits 5xLastEP	P.V. Factor Lumpsum	P.V. 1-1-yr0 Lumpsum	P.V. Factor BurCom	P.V. 1-1-yr0 BurCom	P.V. EnrCom Lumpsum
1	2	3	4	5	6	7	8	9
0	2nd LT	38.300,		1		.32197		
-								
-								
19	ITCOL.	90.800,		.11611		.03738		
20	COL.	95.200,	454.000,	.10367	47.066,	.03338	3.004,	50.070,
21	COL.	103.000,	476.000,	.09256	44.059,	.02980	2.682,	46.741,
22	COL.	103.000,	515.000,	.08264	42.560,	.02661	2.395,	44.955,
23	COL.	103.000,	515.000,	.07379	38.002,	.02376	2.138,	40.140,
24	COL.	110.800,	515.000,	.06588	33.928,	.02121	1.909,	35.837,
25	COL.	110.800,	554.000,	.05882	32.586,	.01894	1.705,	35.291,
26	COL.	110.800,	554.000,	.05252	29.096,	.01691	1.522,	30.618,
27	ERIGEN	115.800,	554.000,	.04689	25.977,	.01510	1.359,	27.336,
28	ERIGEN	115.800,	579.000,	.04187	24.243,	.01348	1.213,	25.456,
29	ERIGEN	115.800,	579.000,	.03738	21.643,	.01204	1.084,	21.751,
30	ERIGEN	115.800,	579.000,	.03338	19.327,	.01075	968,	20.295,
31	ERIGEN	115.800,	579.000,	.02980	17.254,	.00960	864,	18.118,
32	ERIGEN		579.000,	.02661	15.407,	.00857	771,	16.178,

**TABLE XIX**  
**The Present Value Benefits for Slow Career Officers**

( in rupiah )

Year	Rank	Basepay	Lumpsum benefits 5xlastBP	P.V. Factor Lumpsum	P.V. 1-i-yr0 Lumpsum	P.V. Factor BurCom	P.V. 1-i-yr0 BurCom	P.V.-yr0 BurCom + Lumpsum
1	2	3	4	5	6	7	8	9
0	2nd LT	38.30C,		1		-32197		
-								
-								
19	ITCCL.	90.800,		.11611		-.03738		
20	ITCCL.	90.800,	454.000,	.10367	47.066,	-.03338	3.004,	50.070,
21	ITCCL.	98.300,	454.000,	-.09256	42.022,	-.0298C	2.682,	44.704,
22	ITCCL.	98.300,	491.500,	-.08264	40.618,	-.02661	2.355,	43.013,
23	COL.	103.000,	491.500,	-.07379	36.268,	-.02376	2.138,	38.406,
24	COL.	110.800,	515.000,	-.06588	33.928,	-.02121	1.909,	35.837,
25	COL.	110.800,	554.000,	-.05882	32.586,	-.01894	1.705,	34.291,
26	COL.	110.800,	554.000,	-.05252	29.096,	-.01691	1.522,	30.618,
27	COL.	110.800,	554.000,	-.04689	25.977,	-.01510	1.359,	27.336,
28	COL.	110.800,	554.000,	-.04187	23.196,	-.01348	1.213,	24.409,
29	COL.	110.800,	554.000,	-.03738	20.709,	-.01204	1.084,	21.793,
30	COL.	110.800,	554.000,	-.03338	18.493,	-.01075	968,	19.461,
31	COL.	110.800,	554.000,	-.02980	16.011,	-.00960	864,	16.875,
32	COL.		554.000,	-.02661	14.742,	-.00857	771,	15.513,

Column 9 is the combined present value benefits of both the lump-sum payment and the burial compensation, discounted to the value on January 1, Year 0.

Using this table, the present value of the benefits to be received by a survivor, as discounted to January 1, Year 0 can be observed.



### C. THE PRESENT VALUE OF THE BENEFITS.

Since the focal analysis of this thesis is concerning those who would survive the military career and earn retirement benefit, we must analyze the following benefits:

1. the lump-sum payment benefit, given upon the member's retirement.

2. the burial compensation benefit, given upon the member's death (which in this analysis is assumed to be 10 years after the retirement date).

As the earliest retirement time for members is assumed to be 20 years after enrollment in the military, the benefits tables are developed as follows:

- Table XIX : The Present Value of Benefits for Slow Career Officers.

- Table XX : The Present Value of Benefits for Medium Career Officers.

- Table XXI : The Present Value of Benefits for Fast Career Officers.

For each of these tables, the calculations are as follows:

Column 1, 2, and 3 are derived from the related pay/promotion pattern tables.

Column 4 is the lump-sum payment benefit, 5 times of the last year's monthly base pay.

Column 5 is the present value factor using 12% interest rate being assumed.

Column 6 is the present value of the lump-sum payment benefit (column 4) discounted to the value on January 1, Year 0.

Column 7 is the present value factor for the burial compensation, using 12% interest rate.

Column 8 is the present value of the burial compensation benefit (Rp.90.000,), discounted to the value on January 1, Year 0.

**TABLE XVIII**  
**The Present Value Contributions of Past Career Officers**

( in rupiah )

Year	Rank	Basepay	3-25% Contr.	P.V. Jan. 1	P.V. Factor	P.V. 1-1-Year0	Accumulative P.V. 1-1-Year0
1	2	3	4	5	6	7	8
0	2nd LT	38.300	1.245	14.153	1	14.153	14.153
1	2nd LT	38.300	1.245	14.153	.89286	12.637	26.790
2	1st LT	44.000	1.430	16.256	.79719	12.559	39.349
3	1st LT	44.000	1.430	16.256	.71178	11.571	51.320
4	1st LT	47.800	1.554	17.966	.63552	11.227	62.547
5	CAPT.	50.200	1.632	18.553	.56743	10.528	73.075
6	CAPT.	54.200	1.762	20.030	.50663	10.148	83.223
7	CAPT.	58.200	1.892	21.508	.45235	9.061	92.284
8	MAJOR	62.600	2.035	23.134	.40388	8.687	100.971
9	MAJOR	67.400	2.191	24.907	.36061	8.015	109.313
10	MAJOR	72.200	2.347	26.681	.32197	7.160	117.332
11	MAJOR	75.800	2.464	28.011	.28748	6.488	124.492
12	LTCOL	80.800	2.626	29.852	.25668	6.108	131.340
13	LTCOL	85.800	2.789	31.705	.22917	5.454	137.867
14	LTCOL	90.000	2.925	33.251	.20462	5.172	143.321
15	COL.	90.000	2.925	33.251	.18270	4.843	149.321
16	COL.	95.200	3.094	35.173	.16312	4.434	154.493
17	COL.	95.200	3.094	35.173	.14564	4.084	159.336
18	COL.	103.000	3.348	38.060	.13004	3.646	163.660
19	COL.	103.000	3.348	38.060	.11611	3.323	167.744
20	ERIGGEN	107.700	3.500	39.788	.10256	3.046	171.390
21	ERIGGEN	115.800	3.764	42.789	.08264	2.819	174.913
22	ERIGGEN	115.800	3.764	42.789	.07379	2.646	178.058
23	ERIGGEN	120.000	3.900	44.335	.06588	2.517	180.994
24	ERIGGEN	120.000	3.900	44.335	.05882	2.247	183.813
25	ERIGGEN	120.000	3.900	44.335	.05252	2.066	186.330
26	ERIGGEN	120.000	3.900	44.335	.04689	1.857	188.577
27	ERIGGEN	120.000	3.900	44.335	.04187	1.657	190.583
28	ERIGGEN	120.000	3.900	44.335	.03738	1.480	192.439
29	ERIGGEN	120.000	3.900	44.335	.03338	1.321	194.096
30	ERIGGEN	120.000	3.900	44.335	.02980	1.174	195.576
31	ERIGGEN	120.000	3.900	44.335	.02680	1.036	196.897

TABLE XVII  
The Present Value Contributions of Medium Career Officers

( in rupiah )

Year	Rank	Basepay	3.25% Contr.	P.V. Jan. 1	P.V. Factor	P.V. 1-1-year0	Accumulative P.V. 1-1-year0
1	2	3	4	5	6	7	8
0	LT	38-300	1-245	14-153	1	14-153	14-153
1	2nd LT	38-300	1-245	14-153	.89286	12-637	26-790
2	2nd LT	41-900	1-362	15-483	.79719	12-343	39-133
3	1st LT	44-800	1-430	16-256	.71178	11-571	50-704
4	1st LT	47-800	1-554	17-666	.63552	11-227	61-931
5	1st LT	51-600	1-677	19-064	.56743	10-024	71-955
6	1st LT	54-200	1-762	20-030	.50663	9-658	81-613
7	CAPTAIN	58-200	1-892	21-508	.45235	9-661	90-674
8	CAPTAIN	62-200	2-022	22-986	.36061	8-756	99-361
9	CAPTAIN	67-400	2-191	24-907	.28197	7-756	107-117
10	MAJOR	72-200	2-347	26-681	.22568	7-160	114-518
11	MAJOR	77-000	2-503	28-454	.18270	6-848	121-678
12	MAJOR	80-800	2-626	29-852	.14564	6-582	128-526
13	MAJOR	85-800	2-789	31-705	.11611	5-454	134-640
14	MAJOR	90-800	2-951	33-547	.09256	5-172	140-462
15	MAJOR	95-200	3-094	35-173	.07379	4-618	145-916
16	MAJOR	103-000	3-348	38-060	.05882	4-362	151-088
17	MAJOR	103-000	3-348	38-060	.04689	4-362	155-068
18	MAJOR	110-800	3-601	40-936	.03738	3-545	160-068
19	MAJOR	110-800	3-601	40-936	.03338	3-545	163-963
20	MAJOR	115-800	3-764	42-789	.02980	3-545	167-609
21	MAJOR	115-800	3-764	42-789	.02980	3-545	171-132
22	MAJOR	115-800	3-764	42-789	.02980	3-545	174-277
23	MAJOR	115-800	3-764	42-789	.02980	3-545	177-085
24	MAJOR	115-800	3-764	42-789	.02980	3-545	179-782
25	MAJOR	115-800	3-764	42-789	.02980	3-545	182-190
26	MAJOR	115-800	3-764	42-789	.02980	3-545	184-340
27	MAJOR	115-800	3-764	42-789	.02980	3-545	186-346
28	MAJOR	115-800	3-764	42-789	.02980	3-545	188-137
29	MAJOR	115-800	3-764	42-789	.02980	3-545	189-737
30	MAJOR	115-800	3-764	42-789	.02980	3-545	191-165
31	MAJOR	115-800	3-764	42-789	.02980	3-545	192-440

TABLE XVI  
The Present Value Contributions of Slow Career Officers

( in rupiah )

Year	Rank	Basepay	3-25% Contr.	P.V. Jan. 1	P.V. Factor	P.V. 1-1-Year0	Accumulative P.V. 1-1-Year0
1	2	3	4	5	6	7	8
0	2nd IT	38-300	1-245	14-153	1	14-153	14-153
1	2nd IT	38-300	1-245	14-153	89286	12-637	26-790
2	2nd IT	41-900	1-362	15-483	79719	12-343	39-133
3	2nd IT	41-900	1-362	15-483	71178	11-020	50-153
4	2nd IT	45-500	1-479	16-813	63552	10-685	60-838
5	1st IT	47-800	1-554	17-666	56743	10-024	70-862
6	1st IT	51-600	1-677	19-064	50663	8-658	80-520
7	1st IT	55-400	1-801	20-474	45235	8-269	89-144
8	1st IT	58-200	1-892	21-508	36061	7-756	97-413
9	CAFTN	62-200	2-022	22-986	32197	7-401	105-169
10	CAFTN	62-200	2-022	22-986	28748	6-608	112-570
11	CAFTN	66-200	2-022	22-986	25668	5-900	125-078
12	MAJOR	72-200	2-347	26-681	22917	5-114	131-192
13	MAJOR	77-000	2-503	28-454	20462	5-822	137-014
14	MAJOR	77-000	2-503	28-454	18270	5-199	142-213
15	MAJOR	81-800	2-659	30-228	16312	4-931	147-144
16	ITCOL	85-800	2-789	31-705	14564	4-4618	151-762
17	ITCOL	90-800	2-951	33-547	13004	4-4362	156-124
18	ITCOL	90-800	2-951	33-547	11611	3-895	160-019
19	ITCOL	98-300	3-195	33-547	10357	3-3478	163-497
20	ITCOL	98-300	3-195	33-547	9256	3-3622	166-859
21	COL	103-000	3-348	36-321	8264	3-002	169-861
22	COL	110-800	3-601	38-060	7379	2-808	172-669
23	COL	110-800	3-601	40-936	6588	2-697	175-366
24	COL	110-800	3-601	40-936	5882	2-408	177-774
25	COL	110-800	3-601	40-936	5252	2-150	179-924
26	COL	110-800	3-601	40-936	4689	1-919	181-843
27	COL	110-800	3-601	40-936	4187	1-714	183-557
28	COL	110-800	3-601	40-936	3738	1-530	185-087
29	COL	110-800	3-601	40-936	3338	1-364	186-451
30	COL	110-800	3-601	40-936	2980	1-220	187-671
31	COL	110-800	3-601	40-936			

**TABLE XXVI**  
**The New Ratio of P.V of the Benefits and the Contributions**

( in rupiah )

Year	Slow Career			New Ratio	Medium Career			New Ratio	Fast Career			New Ratio
	P.V. 1-1-Year-0	New Ben.	Contrib.		P.V. 1-1-Year-0	New Ben.	Contrib.		P.V. 1-1-Year-0	New Ben.	Contrib.	
20	50.070,	160.019,	163.963	.3129	50.070,	50.070,	163.963	.3054	52.351,	167.744,	167.744,	.3121
21	48.906,	163.497,	167.609,	.2991	51.146,	51.146,	167.609,	.3052	51.146,	171.390,	171.390,	.2984
22	51.136,	166.859,	171.132,	.3065	53.467,	53.467,	171.132,	.3124	53.467,	174.913,	174.913,	.3057
23	49.286,	169.861,	174.277,	.2902	51.540,	51.540,	174.277,	.2957	51.540,	178.058,	178.058,	.2895
24	49.408,	172.669,	177.085,	.2861	49.408,	49.408,	177.085,	.2790	51.576,	180.994,	180.994,	.2850
25	50.584,	175.366,	179.782,	.2885	50.584,	50.584,	179.782,	.2814	52.790,	183.813,	183.813,	.2872
26	48.076,	177.774,	182.190,	.2704	48.076,	48.076,	182.190,	.2639	50.177,	186.330,	186.330,	.2693
27	45.520,	179.924,	184.340,	.2530	45.520,	45.520,	184.340,	.2469	47.513,	188.577,	188.577,	.2520
28	42.566,	181.843,	186.346,	.2363	44.850,	44.850,	186.346,	.2407	44.850,	190.583,	190.583,	.2353
29	40.430,	183.557,	188.138,	.2203	42.206,	42.206,	188.138,	.2243	43.697,	192.439,	192.439,	.2271
30	37.953,	185.087,	189.737,	.2051	39.622,	39.622,	189.737,	.2088	41.024,	194.096,	194.096,	.2114
31	35.533,	186.451,	191.165,	.1906	37.098,	37.098,	191.165,	.1941	38.412,	195.576,	195.576,	.1964
32	33.203,	187.671,	192.440,	.1769	34.667,	34.667,	192.440,	.1801	35.896,	196.897,	196.897,	.1823

## VI. CONCLUSIONS AND RECOMMENDATIONS.

The critical result of this study can be summarized as follows:

1. It can be observed that from the company's financial point of view (Table V), PERUM ASABRI clearly has a stable, growing and promising financial condition. As far as the government continue to regulate the membership contribution, the company will have a guaranteed source of income and will never go bankrupt. The future of the company's financial conditions will be at least as good as it is now if they can maintain their careful investment policy as it is applied now.

2. PERUM ASABRI does not have significant future obligations, since the kind of benefits provided by the company is a single payment type benefit wherein no further obligation exists between the company and the members after each lump-sum claim is paid, except the burial compensation which is provided upon their death. All of those obligations, though, can be treated as a single year obligation. This differs from the Social Security program where a continuous payment is incurred monthly to the old age members until their death, hence become a burden of its accumulating future obligations.

3. The present value of the cumulative contributions paid is much greater than the present value of the benefits to be obtained by a member who survives and retires from the military service. Because of this significant discrepancy the amount of the benefits should be reassessed and adjusted.

4. The longer a member stays in the service the smaller the present value of benefits he would obtain, on the other

hand, the larger the present value of contribution he would pay, and therefore the smaller the ratio of the benefits and contributions would be. From the standpoint of a merit system, this kind of benefit scheme is not a fair situation. A new formula should be designed for a better system.

5. The use of the last gross monthly pay as the basis of benefit calculation is a logical one, since the gross pay is part of the merit system. The benefit using a fixed amount of money will need a frequent adjustment due to the inflationary effect to the monetary value.

The following recommendations are presented, based on the above conclusions that the amount of benefits should be increased and the fact that the financial condition of the company is strong:

1. The current benefits scheme should be increased into a certain amount that will not harm the company's operational continuity.

2. Using Table V, the maximum feasible benefits (column 5) to be provided by the company is at least equal to the contributions received by the company (column 4). The company's operational expenses and non benefit expenses (column 6) can be covered easily by the company's investment returns (column 3) for the years to come. Applying this policy, the company could still reinvest the difference between the current investment returns and the non benefit expenses, in their investment funds. It is apparent that the company does not need to rely on membership contributions to pay for operational and non benefit expenses. The formula of the equation between column 4 and column 5 from Table V is presented in Table XXVII. It is obvious that the benefit side should be increased by adjusting the value of X (the multiplier to gross pay in benefit scheme) to equalize with the contribution side.

TABLE XXVII  
The Equation Formula of Contributions and Benefits

$$C = CVB + DRB + BURCOM + LUMFSUM$$

$$\text{Contribution} = \text{Benefits}$$

Notes:

$$C = \text{Contribution} = \sum_{i=1}^m \sum_{j=0}^n (3.25 + 12 * A_{ij} * B_{ij})$$

$$CVB = \text{Cash Value Benefit} = \sum_{i=1}^m \sum_{j=0}^n P (D_{ij} + E_{ij}) B_{ij}$$

$$DRB = \text{Death Risk Benefit} = ENL + PO + JO + FSC$$

$$BURCOM = \text{Burial Compensation} = 90.000 \times G$$

$$LUMFSUM = \text{Lumpsum Payment Benefit} = \sum_{i=0}^m \sum_{j=20}^n (X * \frac{j-20}{2}) B_{ij}$$



TABLE XXVIII  
The Notation for the Equation Formula

$A_{ij}$	=	Number of personnels in the rank of i and service year of j
$E_{ij}$	=	Base pay of personnels in the rank of i and service year of j
$D_{ij}$	=	Number of death personnels in active duty in the rank of i and service year of j
$R_{ij}$	=	Number of resign personnels without the right of retirement in the rank of i and service year of j
$G$	=	Number of death personnels within retirement.
$R_{ij}$	=	Number of retired personnels in the rank of i and service year of j
$F$	=	$\frac{a \cdot x : n}{a \cdot x : m}$ The formula being used to get the constant number in providing cash value benefit. (see Table VII)
$ENI$	=	DRE for Enlistedmen $= \sum_{i=1}^m \sum_{j=0}^n 7.5 * A_{ij} B_{ij}$
$EC$	=	DRE for Petty Officers $= \sum_{i=1}^m \sum_{j=0}^n 7.0 * A_{ij} B_{ij}$
$JO$	=	DRB for Junior Officers $= \sum_{i=1}^m \sum_{j=0}^n 6.5 * A_{ij} B_{ij}$
$FSO$	=	DRB for Flag/Senior Off. $= \sum_{i=1}^m \sum_{j=0}^n 6.0 * A_{ij} B_{ij}$
$X$	=	Constant number to be used as a multiplier being used in providing the lumpsum payment benefit to the member after 20 years in the service. This multiplier will be increased gradually by .50 for every additional year after 20 years.

The following recommendations are presented, considering that the benefits provided by the company should be in line with the merit system.

1. The application of giving similar lump-sum payment to every member, regardless of the length of time being spent in the service, should be changed. This kind of practice will benefit the members who stay in the service for a relatively short time only. The longer a member stays in the service the more benefit he should receive in exchange for the higher contribution he has paid to PERUM ASABRI.

2. A formula to determine the constant factor as a multiplier to the gross pay in providing the new lump-sum payment benefit should be designed. A method to find value as the constant number as shown in Table XXVII and Table XXVIII is recommended.

It has been the purpose of this paper to shed a bit of light on the highly complex and little understood system of social insurance in Indonesia. If the preceding analysis and recommendations have contributed one iota to providing a base for increasing that system's efficiency and fairness, the author's efforts were not in any way spent in vain.

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